











Data Based Equipment Operator Training





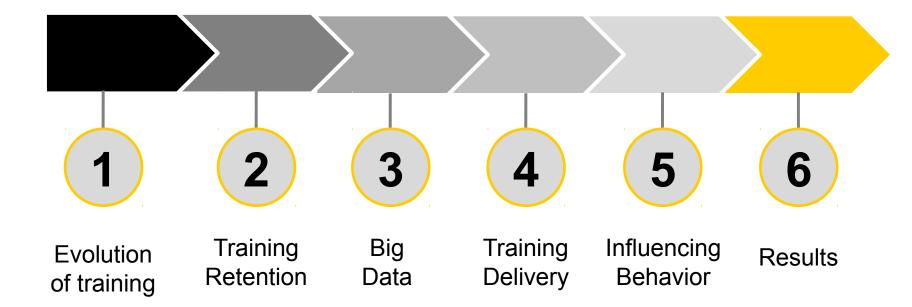








What we will cover



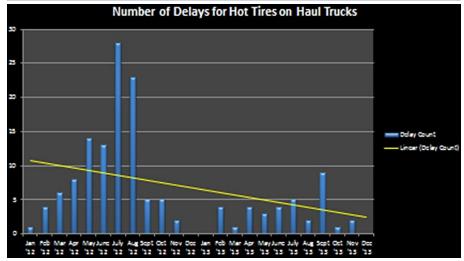
Continuous Improvement-Data Based Training

Boosting Productivity

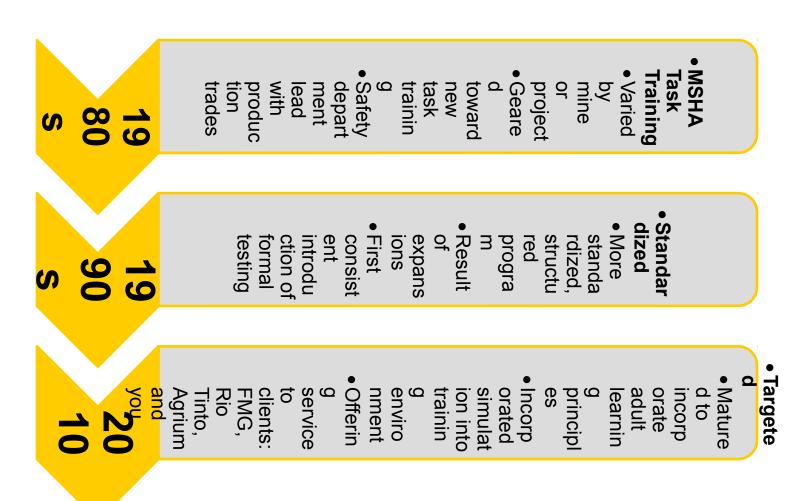
Controlling Cost







Training Evolution



MSHA Task Training

Largely Required to ensure Training Compliance

- Accountability mostly agency focused
- Competence rather than excellence minded

Limited, Sporadic Training Opportunities

- Coal Mining stagnant throughout 1980's & 90's
- Most training was a result of retirement attrition

Inconsistent Training and Follow-up

- Peer to peer training
- Trade rotation through position

Standardized Training







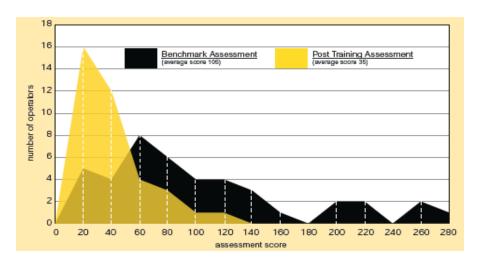
Retention Warning Signs

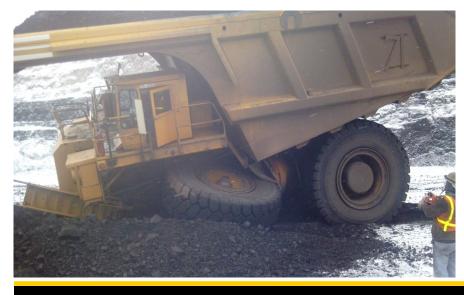
First I heard of it

Retraining

Acceptance of errors

Not my fault







Targeted Training

Baseline Operator Skill and Knowledge

- Development of training objectives to close gaps
- Measure and communicate improvements

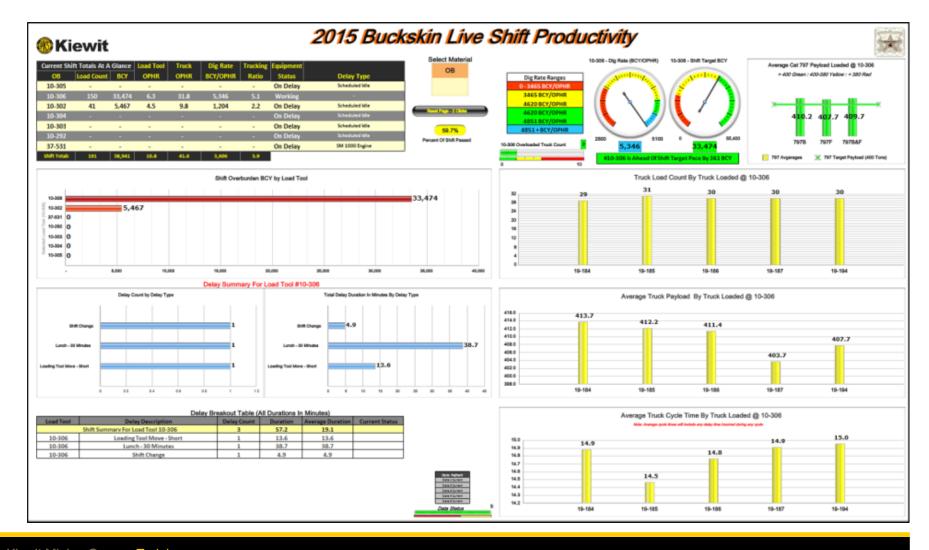
Harness Electronic Data to Develop Targeted Training

- Immersive simulator consistent and accurate
- Electronic data like VIMS tie results to people

Adult Learning – Retention Focus

- Read-Hear-Do-Say
- Chunk learning
 - Master a set of skills before moving on
 - No longer death by PowerPoint or sink-or-swim

Real Time Data



Kiewit Mining Group - Training

Training Delivery

E-Learning, classroom, simulator, field

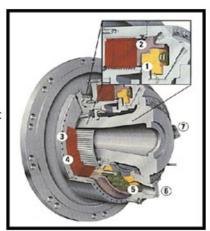
BRAKING SYSTEM

SERVICE FOOT PEDAL BRAKING

- · 100% braking all wheels
- Component wearing
- Abrasive
- Harsh
- High costs
- · Unnecessary down time replacement

MANUAL RETARDER BRAKING

- 80% braking
- Modulating
- Controlled application
- Less aggressive
- Less costs

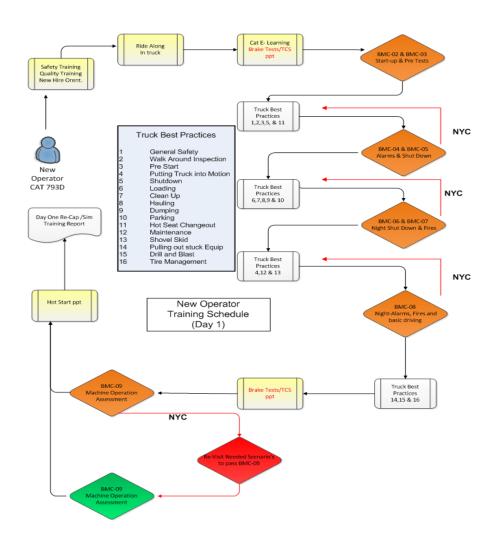








Targeted Training



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Taking Action

VIMS Health Events By Crew

Report Date / Time Span								
Shift Begin:	Day shift 01 Jan 2012	Shift End:	Night shift 31 Jan 2012	Duration: Hours				
Time Begin:	Jan 1, 2012 6:00:00 AM	Time End:	Feb 1, 2012 6:00:00 AM	744:00:00				

Event Definetion	Level	A Crew	B Crew	C Crew	D Crew	Totals
Abusive Shift alarm	2	10	7	5	3	25
Bdy UpMach Mov alarm	2	3	0	0	0	3
Body Up alarm	2	2,490	1,361	1,322	304	5,477
Body Up;Gnd Spd alarm	2	1	1	5	2	9



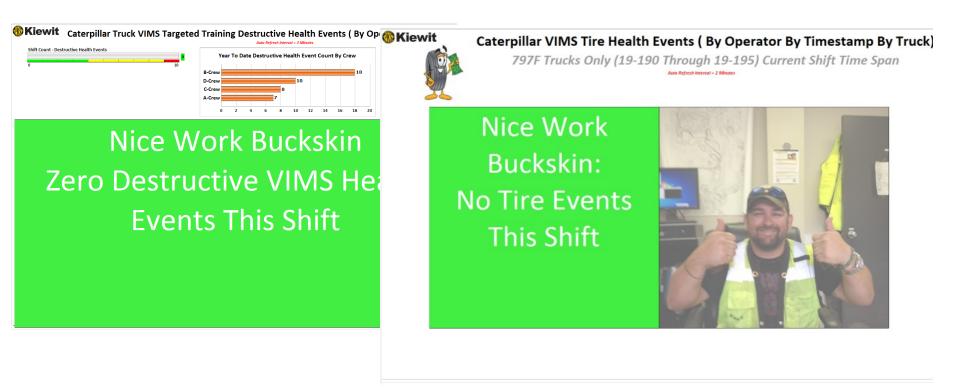
Body Up alarm Totals				
Body Up;Gnd Spd alarm Totals	Sullivan, Travis	2	2	
Body Up;Gnd Spd alarm Totals				
Eng Spd alarm Totals	Cudmore, Matt	2	2	
	Guyer, Jordan	2	1	
	Hanson, Tony	2	1	
	Loman, Derek	2	1	
Eng Spd alarm Totals				
Gear Select alarm Totals	Wissler, Chad	2	2	
	Speas, John	2	1_	
	Sullivan, Travis	2	1	
	Thompson, Corey	2	1	
Gear Select	5			
Max Bias/Sec alarm Totals	Parks, Chris	2	145	
	Sullivan, Travis	2	118	
	Verhasselt, Darcy	2	88	
	Arbizo, James	2	73	

Training Contact Date 10-9-2012 Person with Training Concern: Paraich Campbell Equipment #: Suparaisan Operator with Training Need: Reamby Maliste Equipment #: 06-1111 General Concerns: Engine oven speed on RTD. General Concerns: Engine oven speed on RTD. General Concerns: Engine oven speed on RTD.

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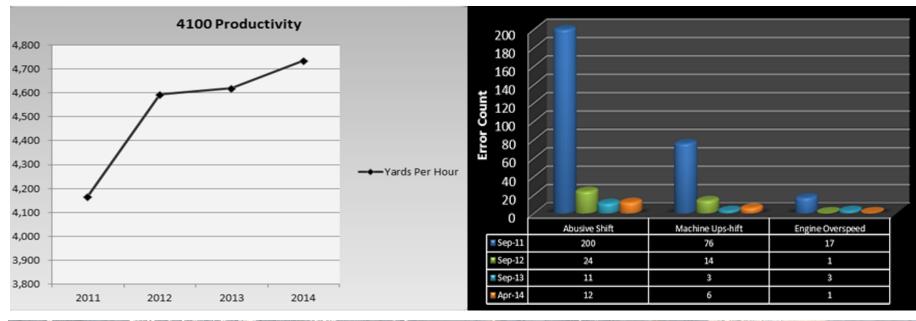
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Consequences - Soon, Certain, Positive



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Proven Results!





KMG Training

Iron Ore, Phosphate, Copper, Coal, Oil sands









